

INSTRUCTION MANUAL

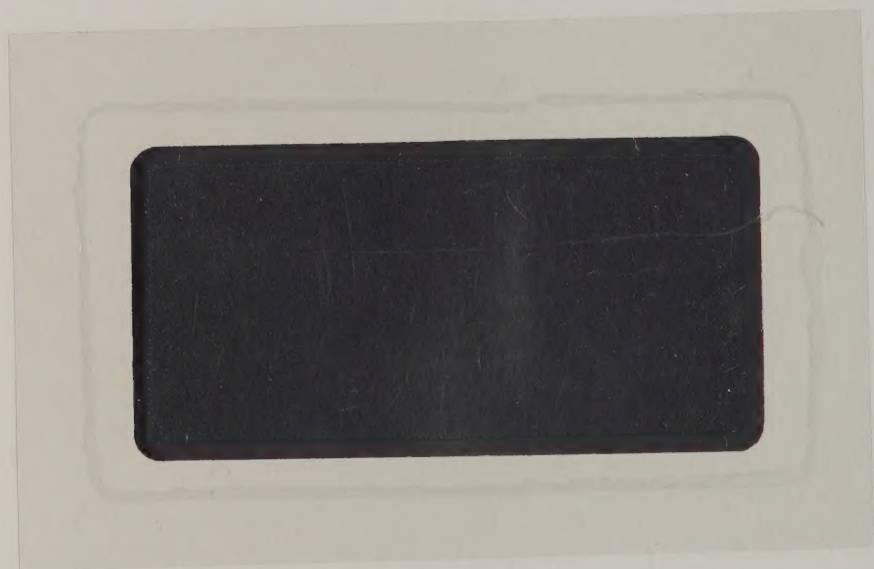
NOISE GENERATOR

MG445A

MP MASTER



MA35835



INSTRUCTION MANUAL

NOISE GENERATOR

MG445A

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CERTIFICATION

ANRITSU CORPORATION certifies that this instrument has been thoroughly tested and inspected, and found to meet published specifications prior to shipping.

Anritsu further certifies that its calibration measurements are based on the Japanese Electrotechnical Laboratory and Radio Research Laboratory standards.

WARRANTY

All parts of this product are warranted by Anritsu Corporation of Japan against defects in material or workmanship for a period of one year from the date of delivery. In the event of a defect occurring during the warranty period, Anritsu Corporation will repair or replace this product within a reasonable period of time after notification, free-of-charge, provided that: it is returned to Anritsu; has not been misused; has not been damaged by an act of God; and that the user has followed the instructions in the operation manual.

Any unauthorized modification, repair, or attempt to repair, will render this warranty void.

This warranty is effective only for the original purchaser of this product and is not transferable if it is resold.

ALL OTHER EXPRESSED WARRANTIES ARE DISCLAIMED AND ALL IMPLIED WARRANTIES FOR THIS PRODUCT, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO A PERIOD OF ONE YEAR FROM THE DATE OF DELIVERY. IN NO EVENT SHALL ANRITSU CORPORATION BE LIABLE TO THE CUSTOMER FOR ANY DAMAGES, INCLUDING LOST PROFITS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES, ARISING OUT OF THE USE OR INABILITY TO USE THIS PRODUCT.

All requests for repair or replacement under this warranty must be made as soon as possible after the defect has been noticed and must be directed to Anritsu Corporation or its representative in your area.

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— WARNING —

**NO OPERATOR SERVICEABLE PARTS INSIDE .
REFER SERVICING TO QUALIFIED PERSONNEL .**

— CAUTION —

**FOR CONTINUED FIRE PROTECTION REPLACE
ONLY WITH SPECIFIED TYPE AND RATED FUSE .**

Note:

1. The instrument is operable on a nominal voltage of 100 to 127 Vac or 200 to 254 Vac by changing the connections on the power transformer taps.

The voltage and current ratings are indicated on the rear panel when the instrument is shipped from the factory.

To operate on the other voltage, change the connections on the power supply transformer. The plate on the rear panel indicating the voltage and current ratings should be changed to the appropriate one. Order the plate from ANRITSU CORP. if needed.

2. In this manual, the power supply voltage and current ratings are represented by **Vac and ***A, respectively.
3. The relationship between power supply voltage and current rating is shown below.

Vac	*A
100 to 127 V	1.6 A
200 to 250 V	1 A

HISTORY OF MODIFICATIONS (MG445A/445B Inst.)

ITEM	DESCRIPTION		Applicable Serial No.
	Before Modification	After Modification	
P.A-27	COMPONENT LIST OF FLAT AMP (44W80619 1/4))		
	C8 CER, (RD340CK*CY50) Note: Q,ty 0 or 1* 0.5 to 1pF,±0.25pF,50V	C8 CER. (CC45CK1H*CY) Note: Q'ty 0 or 1,*,open 0.5 to 1pF,±0.25pF,50V	
	C11 CER, (RD340CK*CY50) Note: Q,ty 0 or 1* 0.5 to 1pF,±0.25pF,50V	C11 CER, (CC45CK1H*CY) Note: Q'ty 0 or 1,*,3pF 0.5 to 1pF,±0.25pF,50V	
	C32 CER, (RD340CK*CY50) Note: Q,ty 0 or 1* 0.5 to 1pF,±0.25pF,50V	C32 CER, (CC45CK1H*CY) Note: Q'ty 0 or 1,*,4pF 0.5 to 1pF,±0.25pF,50V	
P.A-28	COMPONENT LIST OF FLAT AMP (44W80619 2/4)		
	C37 CER, (RD340CK*CY50) Note: Q,ty 0 to 2,* 0.5 to 1pF,±0.25pF,50V	C37 CER, (CC45CK1H*CY) Note: Q'ty 0 to 2,*,0.5 pF,1pF parallel 0.5 to 1pF,±0.25pF,50V	
	C39 CER, (RD340CK*CY50) Note: Q,ty 0 or 1* 0.5 to 1pF,±0.25pF,50V	C39 CER, (CC45CK1H*CY) Note:Q'ty 0 or 1,*,4pF 0.5 to 1pF,±0.25pF,50V	
			From M17871

ITEM	DESCRIPTION		REMARKS
	NAME	LOCATION	
A-1	COMPONENT LIST OF THE SET		
	COMPONENT LIST OF THE SET		
	COMPONENT LIST OF THE SET		
	COMPONENT LIST OF THE SET		
A-2	COMPONENT LIST OF THE SET		
	COMPONENT LIST OF THE SET		
	COMPONENT LIST OF THE SET		
	COMPONENT LIST OF THE SET		

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SECTION 1

GENERAL

This instrument is used to measure the noise allowance of a repeater by combining with an error rate measuring instrument and can add 70 ± 20 MHz noise to an IF signal. Besides, it can vary the S/N ratio by changing the noise level.

SECTION 2

COMPOSITION AND SPECIFICATIONS

2.1 Standard Composition

Table 2-1 Standard composition

Item	Name	Q'ty	Remarks
Instrument	Noise Generator MG445A	1	
	Measuring cable	2	SP-3CTP <u>3C-2T, 2m</u> SP-3CTP
	Power supply cord	1	
Accessories	SP-3CUPA U-type plug	4	
	Fuse	5	JIS C 6575
			MF51NN250V***AAC05 ... 2
			JIS C 6575
			MF51NN250V0.8ADC01 1
			JIS C 6575
			MF51NN250V0.5ADC01 2
	Instruction manual	1	

2.2 Specifications

2.2.1 IF signal

- | | | |
|-----|--------------|----------------------------|
| (1) | Input level | +4 dBm $\pm$ 1 dB (70 MHz) |
| (2) | Output level | +4 dBm $\pm$ 2 dB (70 MHz) |
| (3) | Flatness | 0.4 dB (50 to 90 MHz) |
| (4) | Group delay | 0.7 ns (50 to 90 MHz) |

- (5) I/O impedance ($75\ \Omega$)
Return loss $\geq 26\ \text{dB}$ (50 to 90 MHz)

2.2.2 Noise generation source

- (1) Flatness See Fig. 2-1.

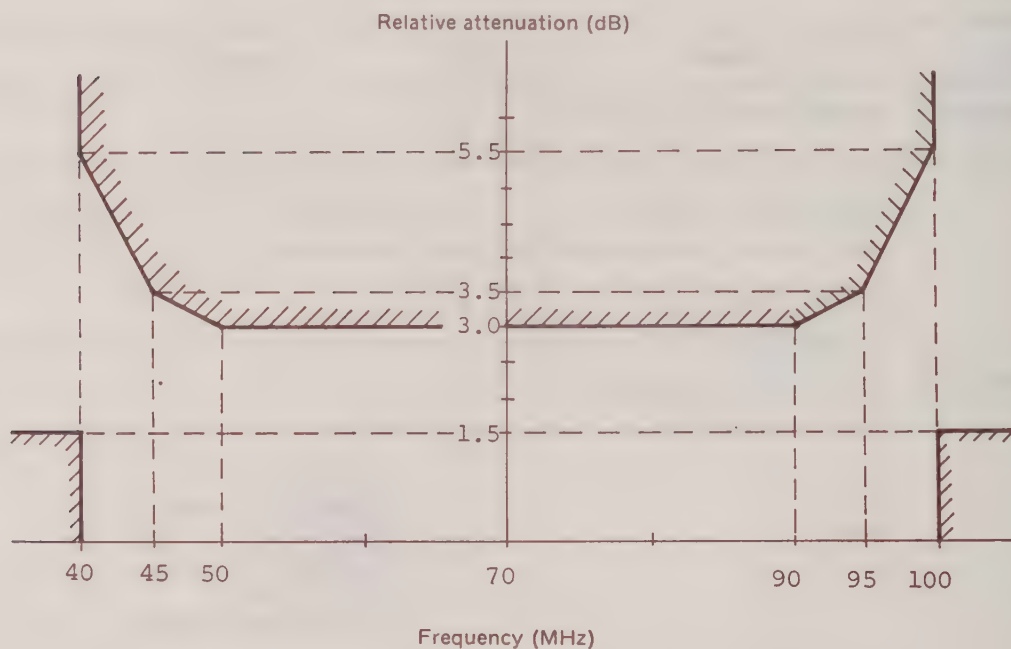


Fig. 2-1 Flatness

- (2) Maximum output level $\geq +6\ \text{dBm}$

2.2.3 S/N ratio setting variable attenuator

When the S/N ratio is set to any values of 0.1 to 71 dB using 10 dB, 1 dB, and 0.1 dB step variable attenuators, the attenuation error based on the attenuation when the S/N ratio is set to 0 dB is within $\pm 0.3\ \text{dB}$. Measurement is made at 70 MHz.

2.2.4 Stability

This instrument satisfies the specifications given in Section 2.2.1 to 2.2.3 under the following conditions:

Power supply voltage ** Vac $\pm 10\%$

Temperature 0 to 50°C

2.2.5 Dimensions and weight

177 (H) x 284 (W) x 351 (D) mm, ≤ 11 kg

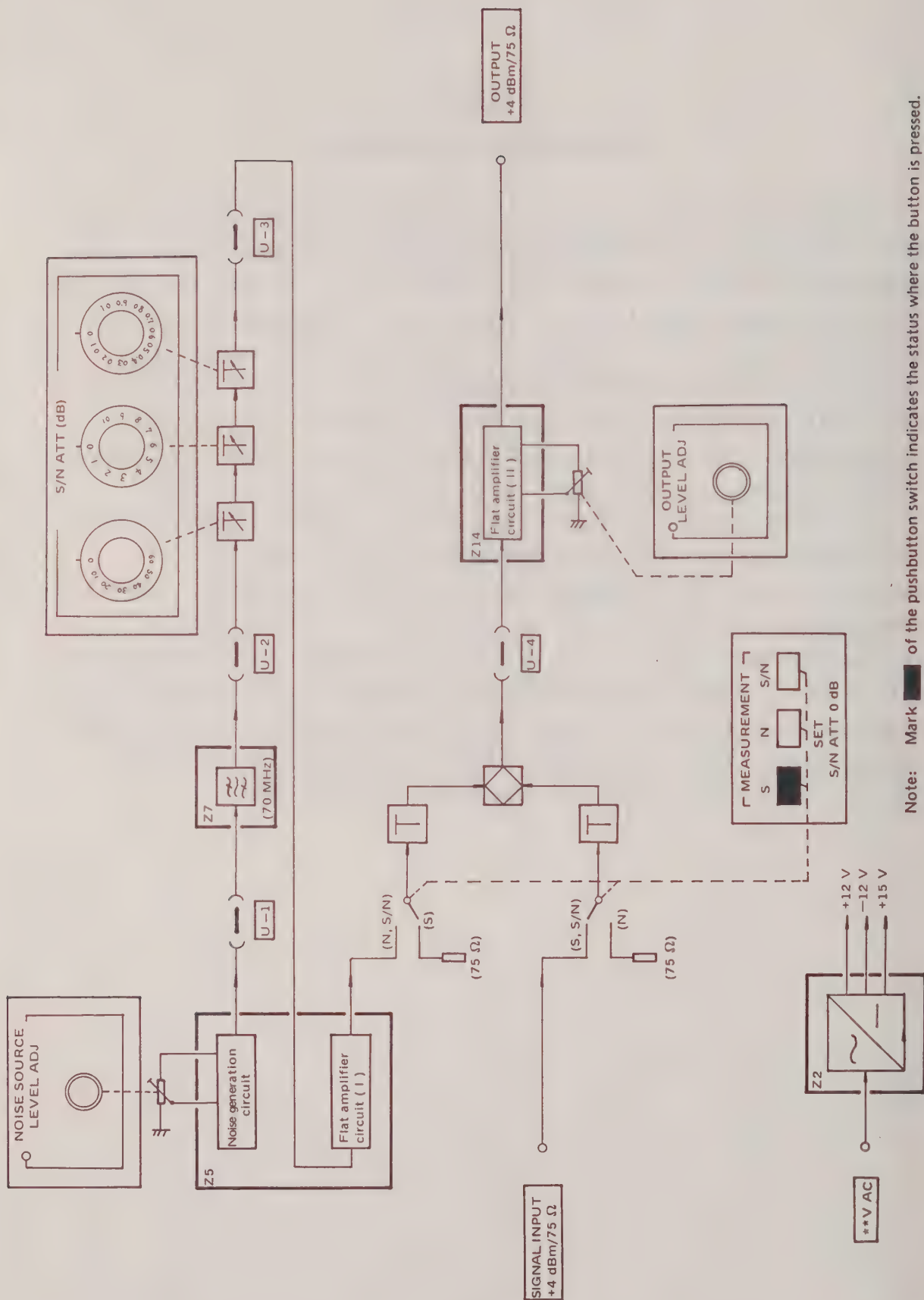
2.2.6 Power supply

**Vac, $\pm 10\%$, ≤ 65 VA

SECTION 3

PRINCIPLES OF OPERATION

The block diagram of this instrument is shown in Fig. 3-1. The noise having flat frequency response generated by the noise generation circuit is band-restricted to 70 ± 20 MHz through the [U-1] by a band pass filter. This noise is applied to a flat amplifier circuit (I) through the [U-2], S/N ratio setting variable attenuator (S/N ATT) and the [U-3], and is amplified to the level exceeding +5 dBm and then is applied to a hybrid transformer. On the other hand, the IF signal from the [SIGNAL INPUT] terminal is also applied to the hybrid transformer. After the IF signal to which the noise is added is applied to a flat amplifier circuit (II) through the [U-4] and is level-adjusted, it is output to the [OUTPUT] terminal. When the [MEASUREMENT] switch is set to [S], only the IF signal is applied to the input of the hybrid transformer and the noise is set to off. When the [MEASUREMENT] switch is set to [N], the IF signal is set to off and only the noise is applied to the hybrid transformer. When the [MEASUREMENT] switch is set to [S/N], both IF signal and noise are applied simultaneously.



Note: Mark of the pushbutton switch indicates the status where the button is pressed.

Fig. 3-1 Block Diagram

SECTION 4

OPERATION

4.1 Explanation of Connectors and Controls

See Table 4-1, Figs. 4-1 and 4-2.

Table 4-1 Explanation of Controls

Number	Indication	Explanation
#1	POWER OFF ON	Power switch When this switch is set to [ON], the neon lamp lights.
#2	NOISE SOURCE LEVEL ADJ	Knob for adjusting the noise output level.
#3	S/N ATT (dB)	S/N ratio setting variable attenuator.
#4	SIGNAL INPUT +4 dBm/75 Ω	IF signal input connector.
#5	OUTPUT LEVEL ADJ	Knob for adjusting the output level.
#6	OUTPUT +4 dBm/75 Ω	Output connector
#7	MEASUREMENT S N S/N SET S/N ATT 0 dB	Output signal changeover switch After the IF signal output level is set by pressing [S] (LED #5 lights) and [S/N ATT (dB)] knob #3 is set to 0 dB, the noise output level is set by pressing [N] (LED #2 lights). Finally, press [S/N] (LED #3 lights) and set S/N ratio by [S/N ATT (dB)] knob #3.
#8	U-1	Noise source output connector and band pass filter input connector. Normally, connect both connectors using a U link.

Table 4-1 Explanation of Controls (Cont'd)

Number	Indication	Explanation
#9	U-2	Band pass filter output connector and S/N ratio setting variable attenuator input connector. Normally, connect both connectors using a U link.
#10	U-3	S/N ratio setting variable attenuator output connector and flat amplifier input connector. Normally, connect both connectors using a U link.
#11	U-4	Hybrid transformer output connector and flat amplifier input connector. Normally connect both connectors using a U link.
#12		Ground terminal
#13	AC **V	AC inlet
	***A	AC power fuse *** A (two fuses)

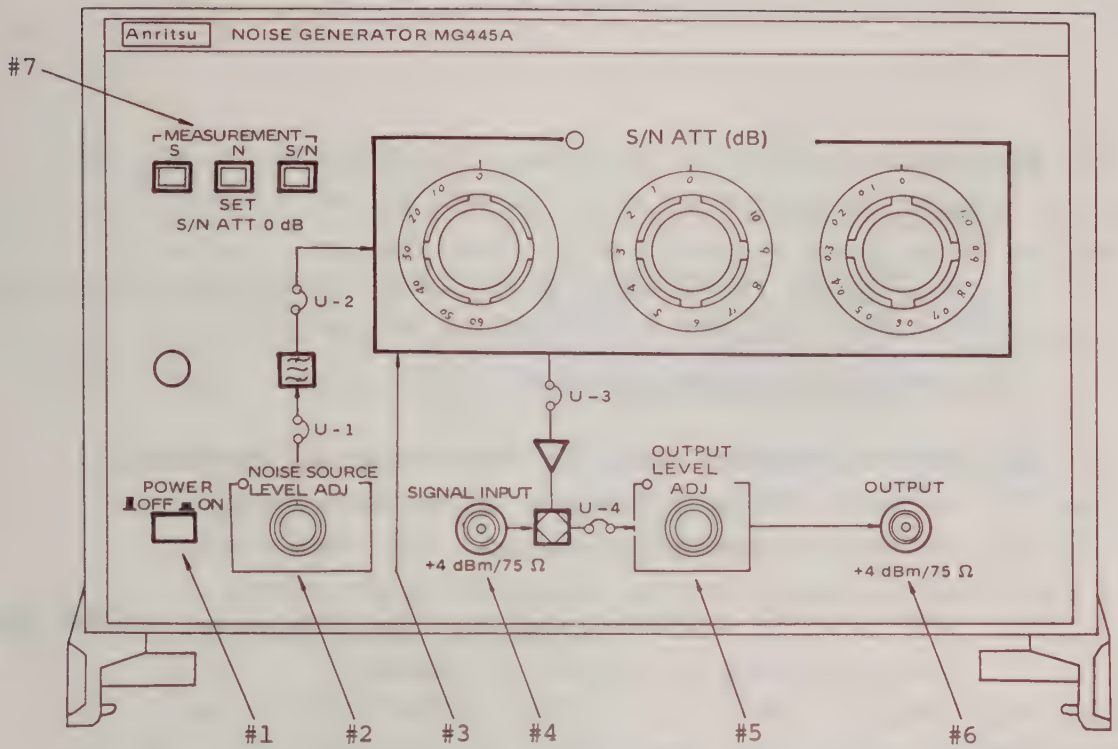


Fig. 4-1 Front view

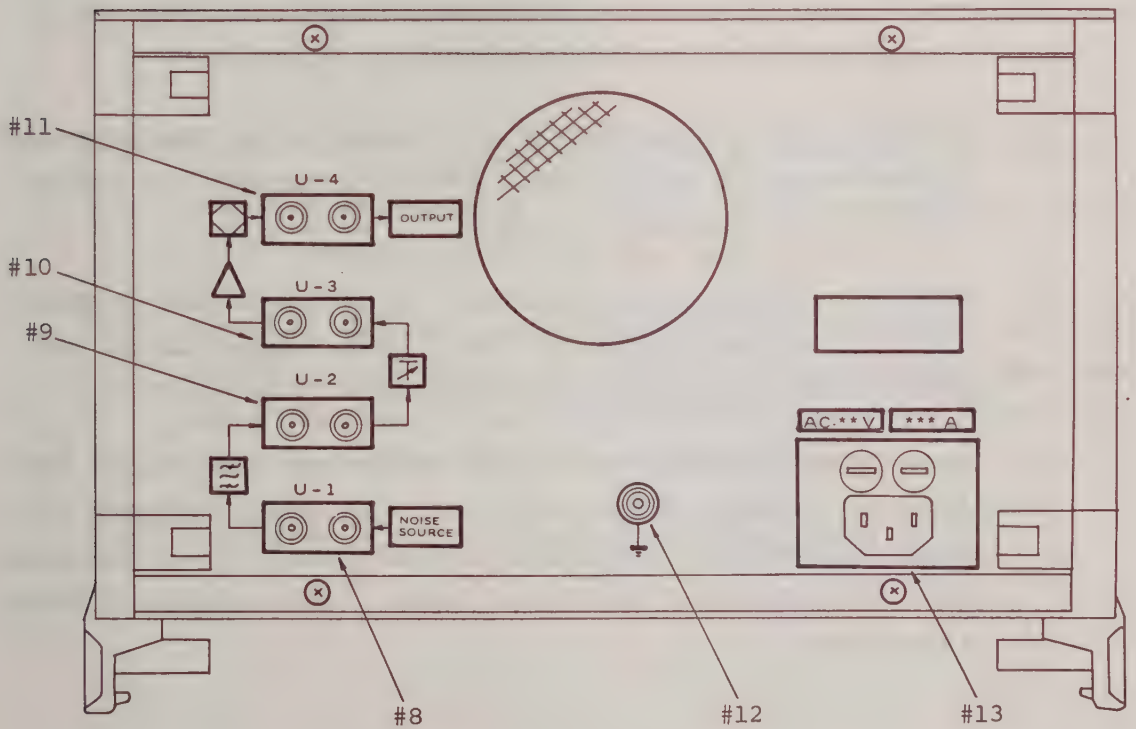


Fig. 4-2 Rear view

4.2 Operation

4.2.1 Preparation

Prepare in accordance with the following procedures:
(See Figs. 4-1 and 4-2 shown in Section 4.1).

- (1) Ground the terminal #12.
- (2) After checking that [POWER] switch #1 is [OFF], connect the ac inlet #13 to ac **V outlet with attached power supply cord.
- (3) Set [POWER] switch #1 to ON. In this case, check that the neon lamp on switch #1 lights.

4.2.2 When the noise of this measuring instrument built-in noise generator is added

- (1) Insert the attached U link in the [U-1] connectors #8, [U-2] connectors #9, [U-3] connectors #10, and [U-4] connectors #11 on the rear panel.
- (2) Connect the IF signal output connector of the repeater to be measured and [SIGNAL INPUT] connector #4 using the attached measuring cable.
- (3) A well calibrated power meter is prepared and connect [OUTPUT] connector #6 and the input connector of the power meter using the attached measuring cable.
- (4) When [MEASUREMENT] switch #7 is set to [S], since the lamp of [OUTPUT LEVEL ADJ] knob #5 lights, adjust the knob and set the IF signal output level while watching the indication of the power meter. The standard level is +4 dBm.

- (5) When [MEASUREMENT] switch #7 is set to [N], since the lamp of [NOISE SOURCE LEVEL ADJ] knob #2 lights, adjust the knob and set the noise output level to the same level as the IF signal output level while watching the indication of the power meter. In this case, always set [S/N ATT(dB)] knob #3 to 0 dB.
- (6) Remove the attached measuring cable that connects [OUTPUT] connector #6 and the input connector of the power meter and connect [OUTPUT] connector #6 and the IF signal input connector of the repeater using the attached measuring cable.
- (7) When [MEASUREMENT] switch #7 is set to [S/N], the lamp of [S/N ATT(dB)] knob #3 lights. The set value of [S/N ATT(dB)] knob #3 is the ratio between the IF signal level and noise level. While varying the set value of [S/N ATT(dB)] knob #3, measure the error rate for each S/N ratio using the error rate measuring equipment.

4.2.3 When the noise of an external noise generator is added

- (1) Insert the attached U link in [U-3] connectors #10 and [U-4] connectors #11 on the rear panel.
- (2) Connect the input connector of the S/N ratio setting variable attenuator of [U-2] connector #9 on the rear panel and the noise output connector of the external noise generator using a cable.
- (3) See Items (2) to (4) shown in Section 4.2.2.

- (4) When [MEASUREMENT] switch #7 is set to [N], the lamp of [NOISE SOURCE LEVEL ADJ] knob #2 lights, but noise level can not set with this knob. While watching the indication of the power meter, set the noise level of the external noise generator to the same level as the IF signal output level. In this case, always set [S/N ATT(dB)] knob #3 to 0 dB.
- (5) See Items (6) and (7) shown in Section 4.2.2.

SECTION 5

PERFORMANCE CHECK

5.1 Measuring Equipment required for Performance Check

- (1) ME453A Microwave System Analyzer (Anritsu)
- (2) MR55A1 IF Return Loss Bridge (Anritsu)
- (3) MS611A Spectrum Analyzer (Anritsu)

5.2 Checking the Flatness, Group Delay, and Return Loss of the IF Signal

- (1) Flatness and group delay

Connect the [IF OUTPUT] connector of the ME453A Transmitter and the [SIGNAL INPUT] connector #4 of this instrument, and the [IF INPUT] connector of the ME453A Receiver and the [OUTPUT] connector #6 of this instrument using a cable, respectively, and check that each of the flatness and group delay satisfies the specifications of Items (3) and (4) shown in Section 2.2.1.

- (2) Return loss

Connect the [AUX IF OUTPUT] connector of the ME453A Transmitter and the [IF INPUT] connector of the ME453A Receiver, the [IF OUTPUT] connector of the ME453A Transmitter and MR55A1 [IF INPUT] connector, the [IF RETURN LOSS INPUT] connector of the ME453A Receiver and the MR55A1 [IF OUTPUT] connector, and the MR55A1 [X] connector and the [SIGNAL INPUT] connector #4 or [OUTPUT] connector #6 of this instrument using cables and check that the respective input and output return loss satisfies the specifications of Item (5) shown in Section 2.2.1.

5.3 Checking the Flatness of the Noise Generation Source

Connect the MS611A [RF INPUT 50 Ω] connector and the band pass filter output connector of [U-2] connector #9 of this instrument using a cable (the MP614A, 50 to 70 Ω impedance converter is used) and check that the flatness satisfies the specifications of Item (1) shown in Section 2.2.2

APPENDIX

1 General

This section contains information relative to ordering replacement components.

The following Table shows circuit references (hereinafter CKT REF) and abbreviations used for components given in the component list (hereinafter C.L.).

In the C.L., the quantity of each component is one so far as no quantitative description is given in the " NOTE " column.

2 Ordering of Components for Replacement

Upon ordering components, please give the following descriptions by referring to the C.L..

Item	Example
(1) Name of instrument	Repeater Checker MH32G
(2) Name of component list	C.L. of Output Circuit
(3) CKT REF	C 3
(4) Name of component	ECQ-M05 104KZ Note: Part name is given in parentheses () in the C.L.. Components with asterisks (*) are those that require factory adjustment upon repairing. When ordering a component or components with asterisk (*), give full description of the component or components.
(5) Quantity	1
(6) Serial No. of instrument	Serial No. M31257

3 Circuit References (CKT REF)

AT: Attenuator	K: Relay	Q: Transistor, Diode, Rectifier, IC	T: Transformer
C: Capacitor	L: Coil	R: Resistor	V: Neon lamp, Vacuum tube
F: Fuse	M: Meter, timer	S: Switch	Z: Unit
J: Jack, plug, connector	P: Lamp		

4 Abbreviations

A : amperes	J-FET : junction FET	PNP : positive-negative-positive
Att, R var : attenuator variable using film resistive elements	k : kilo ($\times 10^3$)	P-P, PP : peak to peak value
BL : boundary layer	LED : light emitting diode	RFC : RF choke
Cer : ceramic	M : mega ($\times 10^6$)	R-lamp : resistor lamp
CF : carbon film	m : milli ($\times 10^{-3}$)	rms : effective value (root means square)
Comp : composition	MF : metallized film	SBD : schottky barrier diode
CRT : cathode-ray tube	MOS-FET : metal oxide semiconductor FET	SCR : silicon controlled rectifier
Di : diode	M paper : metallized paper	Si : silicon
DIL type : dual-in line type	M plast : metallized plastic film	SRD : step recovery diode
Elect : electrolyte aluminum	Multi : multiplying	Tant : tantalum
F : farad	N ch : N channel	Tr : transistor
FET : field effect transistor	non-lin : non-linear taper	Trans : transformer
G : ground	Non-pol : non-polarity	μ : micro ($\times 10^{-6}$)
Ge : germanium	NPN : negative-positive-negative	V : volt
H : henry	Ω : ohms	Var : variable
Hz : hertz	p : pico ($\times 10^{-12}$)	WW : wire wound
IC : integrated circuit	Plast : plastic film	XTAL : crystal
	PMTR : potentiometer	

関係図番

記号	来	歴	年月日	氏名	承認

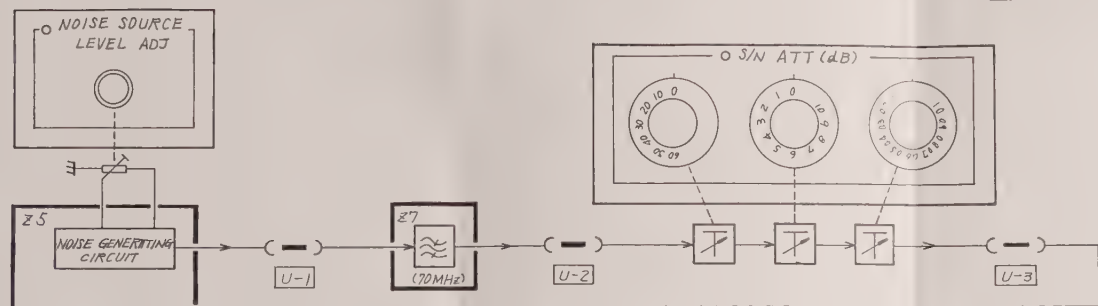
A

B

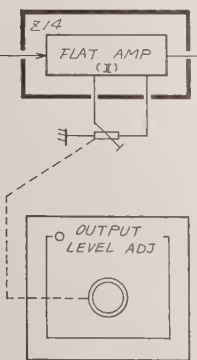
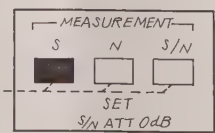
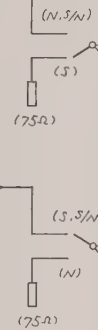
C

D

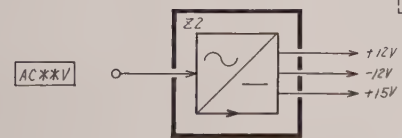
E



SIGNAL INPUT
+4dBm/75Ω



OUTPUT
+4dBm/75Ω



Note : ■ Pushbutton Switch is pushed

図番	品名	材質	処理	記事
管野	SP113	仲田	SP112	
名	BLOCK DIAGRAM OF			
名	NOISE GENERATOR MG445A			
圖番	43W31871			

COMPONENT LIST OF NOISE GENERATOR MG445A

CKT REF	DESCRIPTION	RATING	NOTE
AT 1	Att,R var, (339R14276)	10 dB x 6	
AT 2	Att,R var, (339R14281)	1dB x 10	
AT 3	Att,R var, (339R14280)	0.1dB x 10	
AT 4	Not assigned		
AT 5	Att,R var, (439J5744G)	6dB	
AT 6	Att,R var, (439J5744G)	6dB	
C 1	Elect, (CE62C1V472)	4700 μ F, -10/+50%, 35V	
C 2	Elect, (CE62C1V472)	4700 μ F, -10/+50%, 35V	
C 3	Elect, (CE62C1J102)	1000 μ F, -10/+50%, 63V	
C 4	Not assigned		
C 5	Cer, (DF553F102PY50)	1000pF, +100/-10%, 50V	
C 6	Cer, (DF553F102PY50)	1000pF, +100/-10%, 50V	
C 7	Not assigned		
C 8	Not assigned		
C 9	Not assigned		
C 10	Not assigned		
C 11	Not assigned		
C 12	Not assigned		
C 13	Not assigned		
C 14	Cer, (DF553F102PY50)	1000pF, +100/-10%, 50V	
C 15	Cer, (DF553F102PY50)	1000pF, +100/-10%, 50V	
C 16	Cer, (DF553F102PY50)	1000pF, +100/-10%, 50V	
F 1	Fuse, (MF51NN250V ***AAC05)	***A	
F 2	Fuse, (MF51NN250V ***AAC05)	***A	
G 1	Fan, (109-050)		
J 1	Inlet, (8843-2.SP.FL. 4/3.64)		
J 2	Connector, (U-SB2203)		
J 3	Terminal, (34E772)		
J 4	Not assigned		
J 5	Receptacle, (KC-R002)		
J 6	Plug, (KC-LP008)		
J 7	Soket, (60BF200EK)		
J 8	Plug, (KC-LP008)		
J 9	Receptacle, (KC-R002)		
J 10	Receptacle, (KC-R002)		

(): Manufacturer's part number

* : Selected at factory

44W80615

1/3

COMPONENT LIST OF NOISE GENERATOR MG445A

CKT REF	DESCRIPTION	RATING	NOTE
J11	Plug, (KC-LP008)		
J12	Not assigned		
J13	Not assigned		
J14	Soket, (60BF200EK)		
J15	Plug, (KC-LP008)		
J16	Receptacle, (KC-R002)		
J17	Receptacle, (KC-R002)		
J18	Plug, (KC-LP008)		
J19	Soket, (60BF200EK)		
J20	Not assigned		
J21	Plug, (KC-LP008)		
J22	Not assigned		
J23	Not assigned		
J24	Plug, (KC-LP008)		
J25	Plug, (KC-LP008)		
J26	Plug, (KC-LP008)		
J27	Plug, (KC-LP008)		
J28	Plug, (KC-LP008)		
J29	Plug, (KC-LP008)		
J30	Panel jack, (SP-2.5CPJ)		
J31	Plug, (KC-LP008)		
J32	Not assigned		
J33	Not assigned		
J34	Plug, (KC-LP008)		
J35	Plug, (SP-2.5CP)		
J36	Plug, (KC-LP008)		
J37	Plug, (SP-2.5CP)		
J38	Plug, (SP-2.5CLP)		
J39	Plug, (KC-LP008)		
J40	Receptacle, (KC-R002)		
J41	Receptacle, (KC-R002)		
J42	Plug, (KC-LP008)		
J43	Panel jack, (SP-2.5CPJ)		
J44			
to	Not assigned		
J54			
J55	Soket, (60BF200EK)		
K 1	Switch, coaxial, (339S16731C)		
K 2	Switch, coaxial, (339S16731C)		
P 1	Neon lamp, (BNS-3RU-C)		

(): Manufacturer's part number

* : Selected at factory

44W80615

2/3

COMPONENT LIST OF NOISE GENERATOR MG445A

CKT REF	DESCRIPTION	RATING	NOTE
Q 1	Not assigned		
Q 2	Rectifier, (RB-402-LFD)		
Q 3	Tr, (2SD165)		
Q 4	Tr, (2SB506)		
Q 5	Tr, (2SD165)		
Q 6	Not assigned		
Q 7	LED, (LN38GP)		
Q 8	LED, (LN38GP)		
Q 9	LED, (LN38GP)		
R 1	Not assigned		
R 2	Not assigned		
R 3	Var, CF, (RV24YN25SB 10k Ω)	10k Ω	
R 4	Var, CF, (RV24YN25SB 10k Ω)	10k Ω	
R 5	Not assigned		
R 6	CF, (ARD25T122J)	1.2k Ω , $\pm 5\%$, 1/4W	
R 7	CF, (ARD25T105J)	1M Ω , $\pm 5\%$, 1/4W	
S 1	Pushbutton, (NE-15J(2))		
S 2	Pushbutton, (3F17.54UGr)		
T 1	Power trans, (44T78476)		
Z 1	Line filter, (ZMB2203-13)		
Z 2	Power source, (432U31140)		
Z 3	Not assigned		
Z 4	Not assigned		
Z 5	Noise generating circuit, (432U31140)		
Z 6	Not assigned		
Z 7	Band-pass filter, (442U78933)		
Z 8	Not assigned		
Z 9	Not assigned		
Z10	Terminator, (TE-077)		
Z11	Terminator, (TE-077)		
Z12	Not assigned		
Z13	Trans, hybrid, (T159)		
Z14	Flat amp, (432U28950)		

(): Manufacturer's part number

* : Selected at factory

5-9/(5-10 blank)

44W80615

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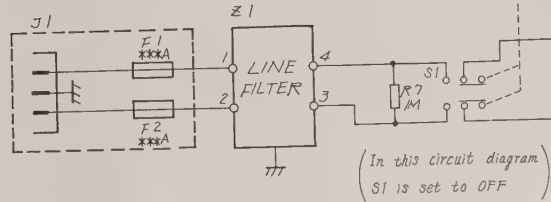
43W31872 1/4

関係図番

記号	来	歴	年月日	氏名	承認

AC**V

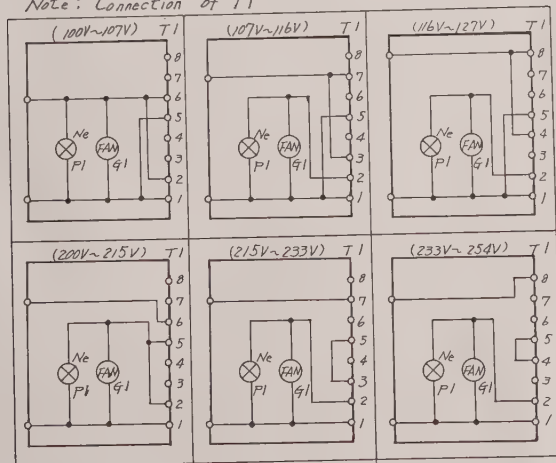
***A



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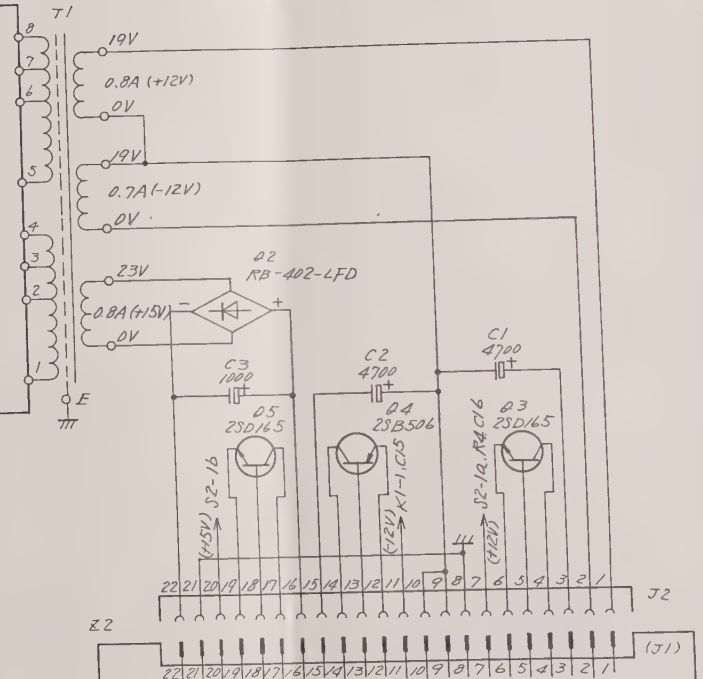


Note: Connection of T1



Component list : 44W80615

See Note



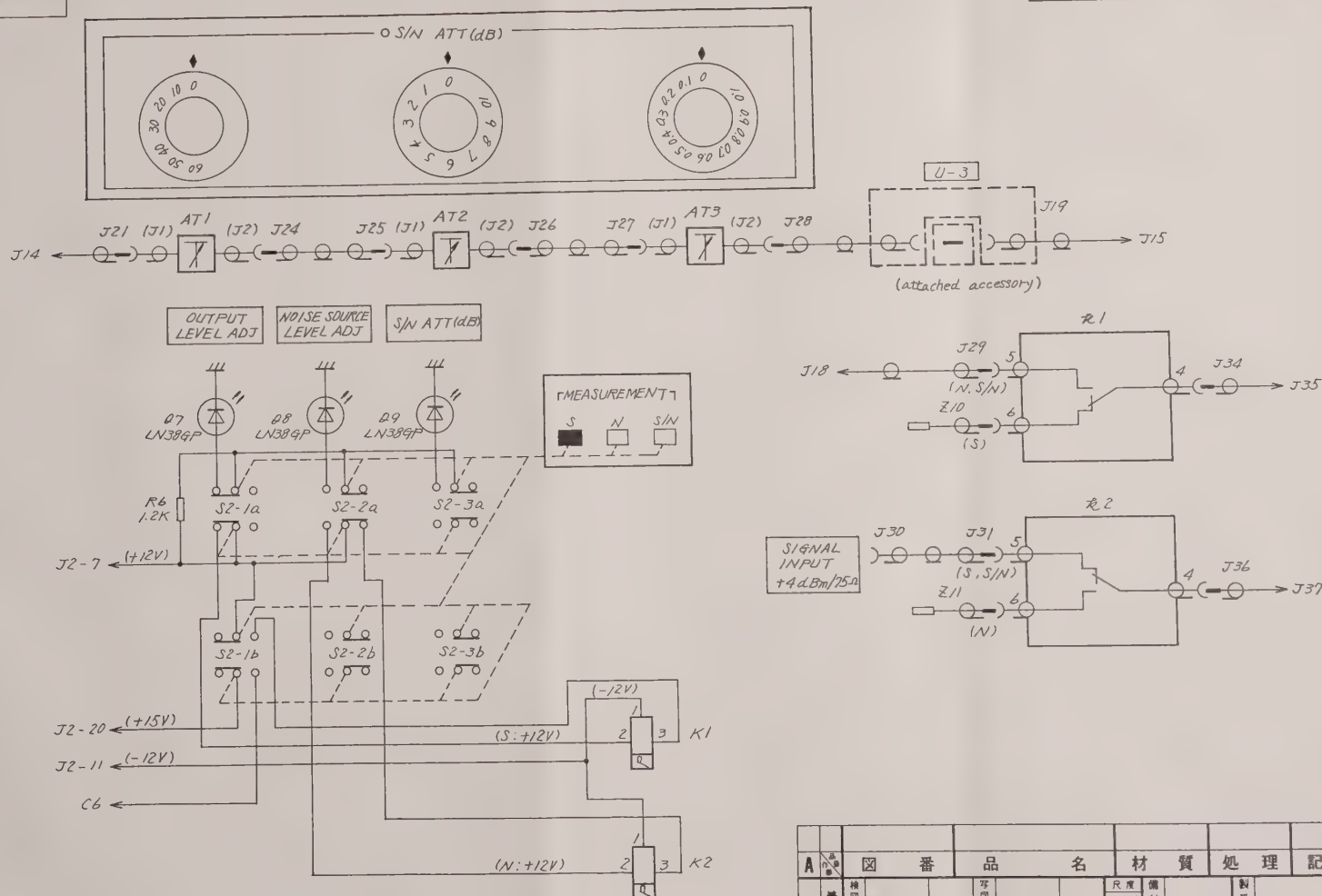
POWER SOURCE

43W31873

入庫

A	図番	品名	材質	処理	記事
43W31872	1/4	CIRCUIT DIAGRAM OF NOISE GENERATOR MG445A			
43W31872	1/4				

關係図番



Note:  Pushbutton Switch is pushed.

[illegible]

43W31872 4/4

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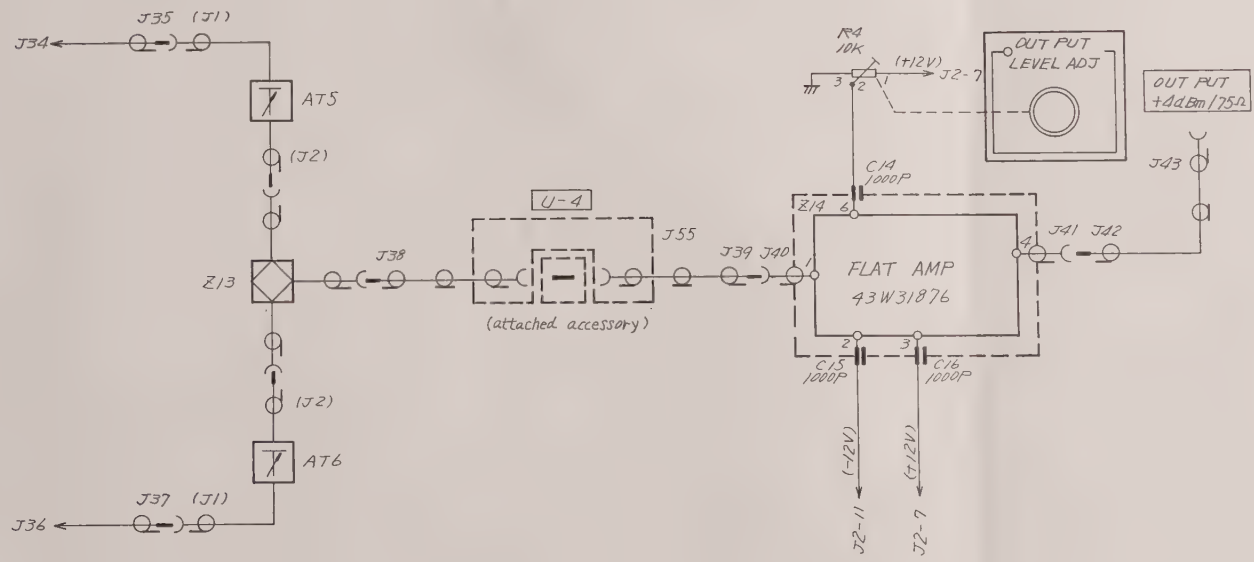
5

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7

記号	来	歴	年月日	氏名	承認

関係図番



図番	品名	材質	処理	記事
43W31872 4/4	CIRCUIT DIAGRAM OF NOISE GENERATOR MG445A			

入庫

COMPONENT LIST OF POWER SOURCE

CKT REF	DESCRIPTION	RATING	NOTE
C 1	Plast, (ECQ-M1H102KZ)	0.001 μ F, $\pm$ 10%, 50V	
C 2	Plast, (ECQ-M1H102KZ)	0.001 μ F, $\pm$ 10%, 50V	
C 3	Plast, (ECQ-M1H102KZ)	0.001 μ F, $\pm$ 10%, 50V	
C 4	Plast, (ECQ-M1H473KZ)	0.047 μ F, $\pm$ 10%, 50V	
C 5	Plast, (ECQ-M1H473KZ)	0.047 μ F, $\pm$ 10%, 50V	
C 6	Elect, (CE04C1J220)	22 μ F, $\pm$ 20%, 63V	
C 7	Elect, (CE04C1J220)	22 μ F, $\pm$ 20%, 63V	
C 8	Elect, (CE04C1J220)	22 μ F, $\pm$ 20%, 63V	
F 1	Fuse, (MF51NN250V 0.8ADC01)	0.8A	
F 2	Fuse, (MF51NN250V 0.5ADC01)	0.5A	
F 3	Fuse, (MF51NN250V 0.5ADC01)	0.5A	
J 1	Connector, (U-PB2221)		
M 1	Timer, (TM-0)	10000H	
Q 1	Rectifier, (M4C-52-12)		
Q 2	Tr, (2SD103)		
Q 3	Di, breakdown, (RD6.2E)	5.78 to 6.44V, 400mW	
Q 4	Tr, (2SB503A)		
Q 5	Di, breakdown, (RD6.2E)	5.78 to 6.44V, 400mW	
Q 6	IC, (μ PC251C)		
Q 7	Di, breakdown, (RD6.2E)	5.78 to 6.44V, 400mW	
Q 8	Tr, (2SD103)		
Q 9	Di, breakdown, (RD6.2E)	5.78 to 6.44V, 400mW	
Q10	IC, (μ PC151C)		
Q11	Di, breakdown, (RD6.2E)	5.78 to 6.44V, 400mW	
R 1	CF, (ARD25T332J)	3.3k Ω , $\pm$ 5%, 1/4W	
R 2	Not assigned		
R 3	CF, (ARD25T681J)	680 Ω , $\pm$ 5%, 1/4W	
R 4	CF, (ARD25T562J)	5.6k Ω , $\pm$ 5%, 1/4W	
R 5	CF, (ARD25T562J)	5.6k Ω , $\pm$ 5%, 1/4W	
R 6	Not assigned		
R 7	Var, MF, (RJ-6P 1k Ω)	1k Ω	
R 8	MR, (RN14K2E1912D)	19.1k Ω , $\pm$ 0.5%, 1/4W	
R 9	CF, (ARD25T102J)	1k Ω , $\pm$ 5%, 1/4W	

(): Manufacturer's part number

* : Selected at factory

44W80616

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COMPONENT LIST OF POWER SOURCE

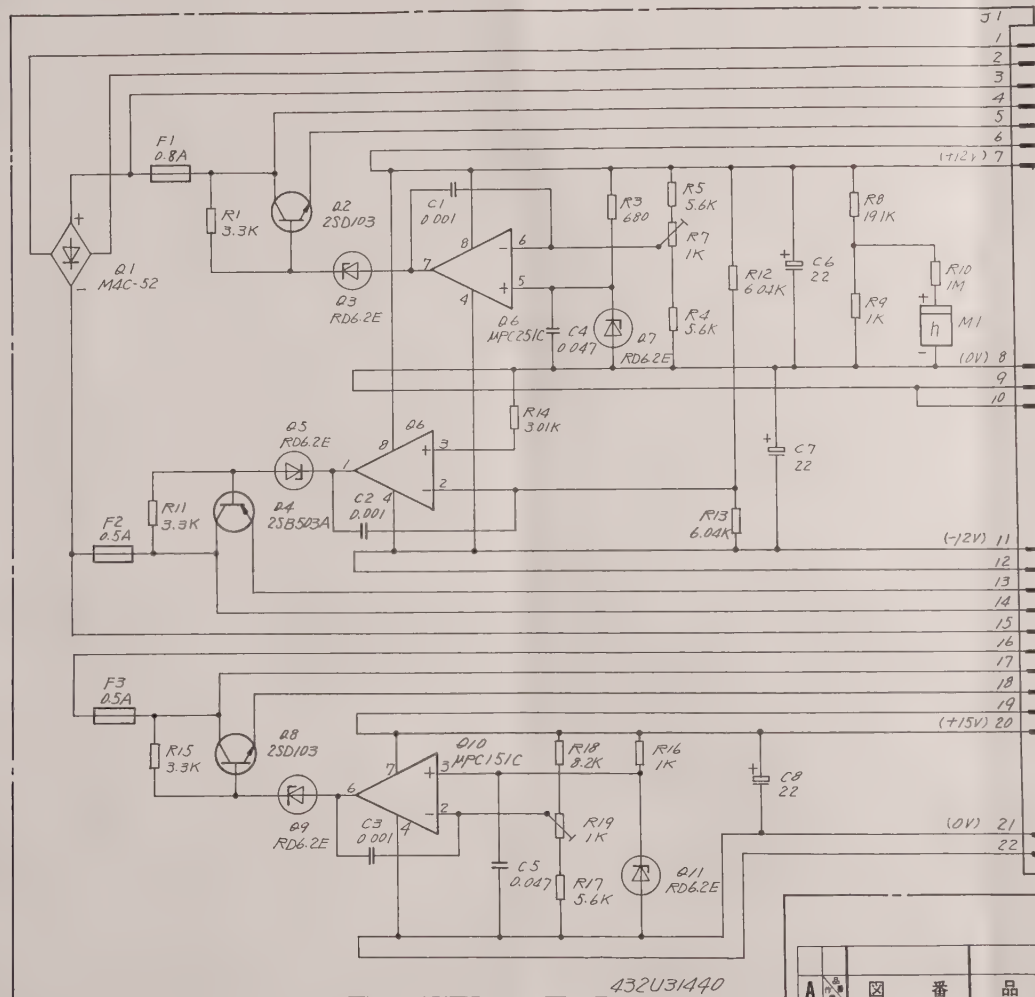
CKT REF	DESCRIPTION	RATING	NOTE
R10	CF, (ARD25T105J)	1M Ω , $\pm 5\%$, 1/4W	
R11	CF, (ARD25T332J)	3.3k Ω , $\pm 5\%$, 1/4W	
R12	MF, (RN14K2E6041D)	6.04k Ω , $\pm 0.5\%$, 1/4W	
R13	MF, (RN14K2E6041D)	6.04k Ω , $\pm 0.5\%$, 1/4W	
R14	MF, (RN14K2E3011D)	3.01k Ω , $\pm 0.5\%$, 1/4W	
R15	CF, (ARD25T332J)	3.3k Ω , $\pm 5\%$, 1/4W	
R16	CF, (ARD25T102J)	1k Ω , $\pm 5\%$, 1/4W	
R17	CF, (ARD25T562J)	5.6k Ω , $\pm 5\%$, 1/4W	
R18	CF, (ARD25T822J)	8.2k Ω , $\pm 5\%$, 1/4W	
R19	Var, MF, (RJ-6P 1k Ω)	1k Ω	

(): Manufacturer's part number

* : Selected at factory

44W80616

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COMPONENT LIST : 44W80616

A	図番	品名	材質	処理	記事
専記	補正 承認	原図 58113	仲田 58112	R度 個付	製番
題名	CIRCUIT DIAGRAM OF POWER SOURCE			図番	43W31873

COMPONENT LIST OF NOISE GENERATING CIRCUIT

CKT REF	DESCRIPTION	RATING	NOTE
C 1	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C 2	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C 3	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C 4	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C 5	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C 6	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C 7	Not assigned		
C 8	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C 9	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C10	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C11	Not assigned		
C12	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C13	Cer, (RPD670C472M50V)	4700μF, ±20%, 50V	
C14	Cer, (RPD670C472M50V)	4700μF, ±20%, 50V	
C15	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C16	Not assigned		
C17	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C18	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C19	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C20	Not assigned		
C21	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C22	Cer, (RPD770C472M50V)	4700pF, ±20%, 50V	
C23	Cer, (CC45CK1H * CY)	0.5 to 2pF, ±0.25pF, 50V	Q'ty 0 to 3, *
C24	Not assigned		
C25	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C26	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C27	Not assigned		
C28	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C29	Not assigned		
C30	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C31	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C32	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C33	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C34	Not assigned		
C35	Cer, (CC45CH1H100DY)	10pF, ±0.5pF, 50V	
C36	Cer, (CC45CH1H200JY)	20pF, ±5%, 50V	
C37	Cer, (CC45CH1H100DY)	10pF, ±0.5pF, 50V	
C38	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C39	Not assigned		
C40	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C41	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C42	Not assigned		
C43	Elect, (CE04C1J2R2)	2.2μF, ±20%, 63V	
C44	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	
C45	Cer, (RPD670C472M50V)	4700pF, ±20%, 50V	

(): Manufacturer's part number

* : Selected at factory

44W80617

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COMPONENT LIST OF NOISE GENERATING CIRCUIT

CKT REF	DESCRIPTION	RATING	NOTE
C46	Cer, (RPD670C472M50V)	4700pF, $\pm 20\%$, 50V	
C47	Not assigned		
C48	Elect, (CE04C1J2R2)	2.2 μ F, $\pm 20\%$, 63V	
C49	Elect, (CE04C1J4R7)	4.7 μ F, $\pm 20\%$, 63V	
L 1	Coil, (34L74434F)	0.2 μ H	
L 2	Coil, (34L74434F)	0.2 μ H	
L 3	Coil, (SP0408-6R8K)	6.8 μ H	
L 4	Coil, (LF8-100K)	10 μ H	
L 5	Coil, (LF8-100K)	10 μ H	
L 6	Coil, (LF8-100K)	10 μ H	
Q 1	Not assigned		
Q 2	Tr, (2SC2369)		
Q 3	Tr, (2SC2369)		
Q 4	Tr, (2SC2369)		
Q 5	IC, (MC5152)		
Q 6	Tr, (2SC2369)		
Q 7	Di, (1SV35)		
Q 8	Tr, (2SC2369)		
Q 9	IC, (MC5152)		
Q10	IC, (MC5153)		
Q11	IC, (MC5152)		
Q12	IC, (MC5153)		
Q13	IC, (MC5152)		
Q14	IC, (MC5152)		
Q15	IC, (MC5152)		
R 1	CF, (ARD25T750J)	75 Ω , $\pm 5\%$, 1/4W	
R 2	CF, (ARD25T682J)	6.8k Ω , $\pm 5\%$, 1/4W	
R 3	CF, (ARD25T392J)	3.9k Ω , $\pm 5\%$, 1/4W	
R 4	CF, (ARD25T * J)	10 to 100 Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *
R 5	CF, (ARD25T471J)	470 Ω , $\pm 5\%$, 1/4W	
R 6	Not assigned		
R 7	CF, (ARD25T * J)	10 to 100 Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *
R 8	MF, (NRTF1/4C * J)	75 to 220 Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *
R 9	MF, (NRTF1/4C 75 Ω J)	75 Ω , $\pm 5\%$, 1/4W	
R10	CF, (ARD25T221J)	220 Ω , $\pm 5\%$, 1/4W	
R11	CF, (ARD25T682J)	6.8k Ω , $\pm 5\%$, 1/4W	
R12	CF, (ARD25T392J)	3.9k Ω , $\pm 5\%$, 1/4W	
R13	CF, (ARD25T * J)	10 to 100 Ω , $\pm 5\%$, 1/4W	Q'ty 0 to 3, *
R14	CF, (ARD25T * J)	10 to 100 Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *

(): Manufacturer's part number

* : Selected at factory

44W80617

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COMPONENT LIST OF NOISE GENERATING CIRCUIT

CKT REF	DESCRIPTION	RATING	NOTE
R15	CF, (ARD25T471J)	470 Ω , $\pm 5\%$, 1/4W	
R16	CF, (ARD25T682J)	6.8k Ω , $\pm 5\%$, 1/4W	
R17	CF, (ARD25T392J)	3.9k Ω , $\pm 5\%$, 1/4W	
R18	CF, (ARD25T * J)	10 to 100 Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *
R19	CF, (ARD25T471J)	470 Ω , $\pm 5\%$, 1/4W	
R20	MF, (NRTF1/4C 75 Ω J)	75 Ω , $\pm 5\%$, 1/4W	
R21	MF, (NRTF1/4C 75 Ω J)	75 Ω , $\pm 5\%$, 1/4W	
R22	CF, (ARD25T472J)	4.7k Ω , $\pm 5\%$, 1/4W	
R23	CF, (ARD25T682J)	6.8k Ω , $\pm 5\%$, 1/4W	
R24	CF, (ARD25T392J)	3.9k Ω , $\pm 5\%$, 1/4W	
R25	CF, (ARD25T * J)	10 to 100 Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *
R26	CF, (ARD25T471J)	470 Ω , $\pm 5\%$, 1/4W	
R27	MF, (NRTF1/4C * J)	75 to 470 Ω , $\pm 5\%$, 1/4W	Q'ty 0 to 3, *
R28	MF, (NRN1/4C4 226 Ω D)	226 Ω , $\pm 0.5\%$, 1/4W	
R29	MF, (NRN1/4C4 226 Ω D)	226 Ω , $\pm 0.5\%$, 1/4W	
R30	MF, (NRN1/4C4 56.2 Ω D)	56.2 Ω , $\pm 0.5\%$, 1/4W	
R31	MF, (NRN1/4C4 226 Ω D)	226 Ω , $\pm 0.5\%$, 1/4W	
R32	MF, (NRN1/4C4 226 Ω D)	226 Ω , $\pm 0.5\%$, 1/4W	
R33	MF, (NRN1/4C4 56.2 Ω D)	56.2 Ω , $\pm 0.5\%$, 1/4W	
R34	MF, (NRN1/4C4 * D)	439 to 654 Ω , $\pm 0.5\%$, 1/4W	} Q'ty 0 or 1, *
	MF, (NRN1/4C4 1.30k Ω F)	1.30k Ω , $\pm 1\%$, 1/4W	
R35	MF, (NRN1/4C4 * D)	439 to 654 Ω , $\pm 0.5\%$, 1/4W	} Q'ty 0 or 1, *
	MF, (NRN1/4C4 1.30k Ω F)	1.30k Ω , $\pm 1\%$, 1/4W	
R36	MF, (NRN1/4C4 8.66 Ω F)	8.66 Ω , $\pm 1\%$, 1/4W	} Q'ty 0 or 1, *
	MF, (NRN1/4C4 * D)	17.4 to 26.7 Ω , $\pm 0.5\%$, 1/4W	

(): Manufacturer's part number

* : Selected at factory

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44W80617

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43W31874

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関係図番

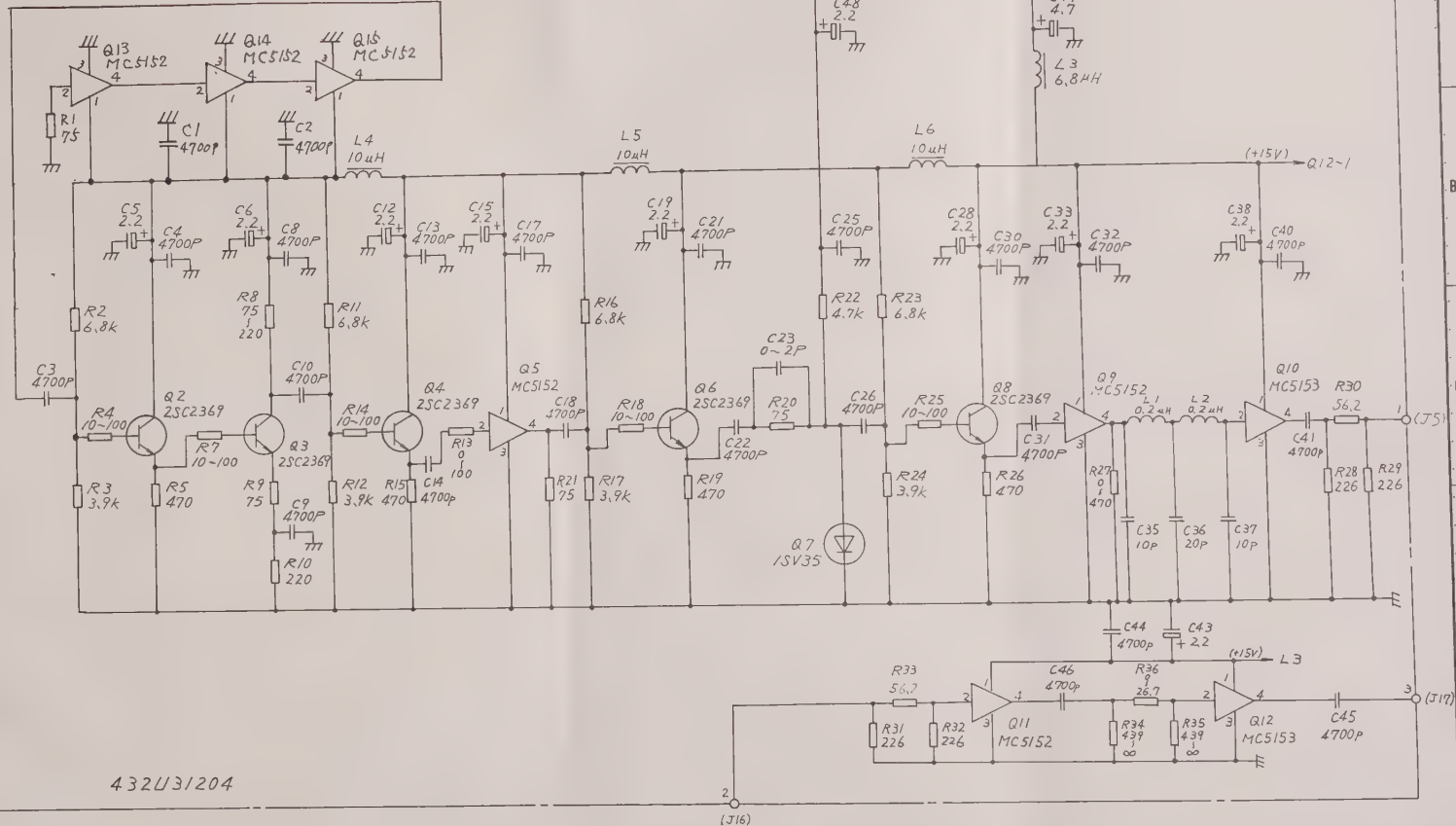
A

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C

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E



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COMPONENT LIST 44W80617

品番	品名	材質	処理	記事
A	図番			
材料	大野	58	10.19	
製造	仲田	58	11.2	
名称	CIRCUIT DIAGRAM OF NOISE GENERATING CIRCUIT			
図番	43W31874			

第三角 ANRITSU CORP.

5-27/(5-28) blan

COMPONENT LIST OF BAND PASS FILTER

CKT REF	DESCRIPTION	RATING	NOTE
C 1	Cer, (CC45SH1H070DY)	7pF, ± 0.5 pF, 50V	Q'ty 1 to 3, *
C 2	Cer, (CC45SK1H020CY)	2pF, ± 0.25 pF, 50V	
	Cer, (CC45SJ1H030CY)	3pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * CY)	4 to 5pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * DY)	6 to 10pF, ± 0.5 pF, 50V	
C 3	Cer, (CC45SH1H090DY)	9pF, ± 0.5 pF, 50V	Q'ty 1 to 3, *
C 4	Cer, (CC45SK1H020CY)	2pF, ± 0.25 pF, 50V	
	Cer, (CC45SJ1H030CY)	3pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * CY)	4 to 5pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * DY)	6 to 10pF, ± 0.5 pF, 50V	
C 5	Cer, (CC45SH1H120JY)	12pF, $\pm 5\%$, 50V	Q'ty 1 to 3, *
C 6	Cer, (CC45SK1H020CY)	2pF, ± 0.25 pF, 50V	
	Cer, (CC45SJ1H030CY)	3pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * CY)	4 to 5pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * DY)	6 to 10pF, ± 0.5 pF, 50V	
C 7	Not assigned		Q'ty 1 to 3, *
C 8	Cer, (CC45SK1H020CY)	2pF, ± 0.25 pF, 50V	
	Cer, (CC45SJ1H030CY)	3pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * CY)	4 to 5pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * DY)	6 to 10pF, ± 0.5 pF, 50V	
C 9	Cer, (CC45SH1H070DY)	7pF, ± 0.5 pF, 50V	Q'ty 1 to 3, *
C10	Cer, (CC45SK1H020CY)	2pF, ± 0.25 pF, 50V	
	Cer, (CC45SJ1H030CY)	3pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * CY)	4 to 5pF, ± 0.25 pF, 50V	
	Cer, (CC45SH1H * DY)	6 to 10pF, ± 0.5 pF, 50V	
L 1	Coil, (339T20195B)	0.52 μ H	
L 2	Coil, (34L55686G)	0.25 μ H	
L 3	Coil, (34L55686F)	0.21 μ H	
L 4	Coil, (339T20195A)	0.42 μ H	
R 1	MF, (NRN1/4C4 654 Ω D)	654 Ω , $\pm 0.5\%$, 1/4W	
R 2	MF, (NRN1/4C4 654 Ω D)	654 Ω , $\pm 0.5\%$, 1/4W	
R 3	MF, (NRN1/4C4 17.4 Ω D)	17.4 Ω , $\pm 0.5\%$, 1/4W	

() : Manufacturer's part number

* : Selected at factory

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44W80618

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43W31875

関係図番

記号

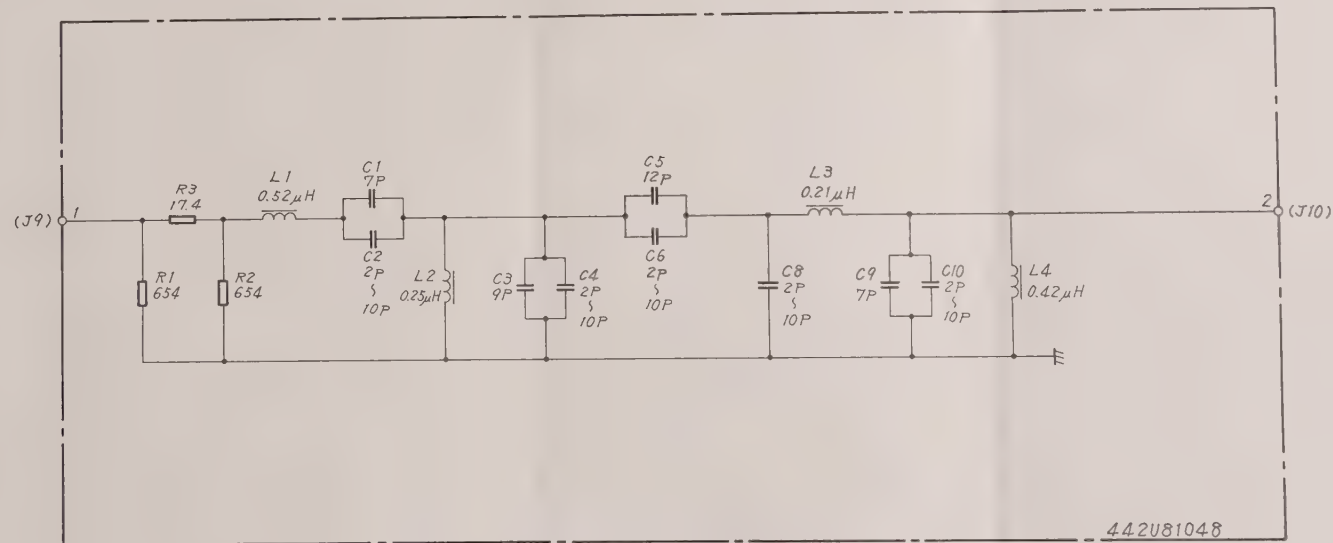
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氏名

承認



442081048

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Component list 44W80618

A		図番		品名		材質		処理		記事	
機 関 承 担 部 門	機 関 承 担	菅田	SP.2.1	機 関 承 担	岡東	SP.2.6	R.度	備 付		製 番	
	機 関 承 担	菅野	SP.2.1	機 関 承 担	仲田	SP.2.1					
	CIRCUIT DIAGRAM OF BAND PASS FILTER						図番				

COMPONENT LIST OF FLAT AMP

CKT REF	DESCRIPTION	RATING	NOTE
C 1	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C 2	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C 3	Not assigned		
C 4	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C 5	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C 6	Elect, (CE04C1J2R2)	2.2 μ F, $\pm$ 20%, 63V	
C 7	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C 8	Cer, (RD340CK * CY50)	0.5 to 1pF, $\pm$ 0.25pF, 50V	} Q'ty 0 or 1, *
	Cer, (CC924CK1H020C)	2pF, $\pm$ 0.25pF, 50V	
C 9	Not assigned		
C10	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C11	Cer, (RD340CK * CY50)	0.5 to 1pF, $\pm$ 0.25pF, 50V	} Q'ty 0 or 1, *
	Cer, (CC924CK1H020C)	2pF, $\pm$ 0.25pF, 50V	
	Cer, (CC924CJ1H030C)	3pF, $\pm$ 0.25pF, 50V	
	Cer, (CC924CH1H040D)	4pF, $\pm$ 0.5pF, 50V	
C12	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C13	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C14	Elect, (CE04C1J2R2)	2.2 μ F, $\pm$ 20%, 63V	
C15	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C16	Not assigned		
C17	Not assigned		
C18	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C19	Elect, (CE04C1J2R2)	2.2 μ F, $\pm$ 20%, 63V	
C20	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C21	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C22	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C23	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C24	Elect, (CE04C1J2R2)	2.2 μ F, $\pm$ 20%, 63V	
C25	Not assigned		
C26	Not assigned		
C27	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C28	Elect, (CE04C1J2R2)	2.2 μ F, $\pm$ 20%, 63V	
C29	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C30	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C31	Cer, (RPN710C223M50V)	0.022 μ F, $\pm$ 20%, 50V	
C32	Cer, (RD340CK * CY50)	0.5 to 1pF, $\pm$ 0.25pF, 50V	} Q'ty 0 or 1, *
	Cer, (CC924CK1H020C)	2pF, $\pm$ 0.25pF, 50V	
	Cer, (CC924CJ1H030C)	3pF, $\pm$ 0.25pF, 50V	
	Cer, (CC924CH1H * D)	4 to 5pF, $\pm$ 0.5pF, 50V	
C33	Cer, (CK924F1H104Z)	0.1 μ F, +80/-20%, 50V	
C34	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	
C35	Elect, (CE04C1J2R2)	2.2 μ F, $\pm$ 20%, 63V	
C36	Cer, (RPD670C472M50V)	4700pF, $\pm$ 20%, 50V	

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* : Selected at factory

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COMPONENT LIST OF FLAT AMP

CKT REF	DESCRIPTION	RATING	NOTE
C37	Cer, (RD340CK * CY50)	0.5 to 1pF, $\pm 0.25\text{pF}$, 50V	Q'ty 0 to 2, *
C38	Cer, (CC924CK1H020C)	2pF, $\pm 0.25\text{pF}$, 50V	
C39	Not assigned		
C39	Cer, (RD340CK * CY50)	0.5 to 1pF, $\pm 0.25\text{pF}$, 50V	Q'ty 0 or 1, *
	Cer, (CC924CK1H020C)	2pF, $\pm 0.25\text{pF}$, 50V	
	Cer, (CC924CJ1H030C)	3pF, $\pm 0.25\text{pF}$, 50V	
	Cer, (CC924CH1H * D)	4 to 5pF, $\pm 0.5\text{pF}$, 50V	
C40	Cer, (RPN710C223M50V)	0.022 μF , $\pm 20\%$, 50V	
C41	Cer, (RPD670C472M50V)	4700pF, $\pm 20\%$, 50V	
C42	Cer, (RPD670C472M50V)	4700pF, $\pm 20\%$, 50V	
C43	Cer, (RPN710C223M50V)	0.022 μF , $\pm 20\%$, 50V	
C44	Elect, (CE04C1J2R2)	2.2 μF , $\pm 20\%$, 63V	
C45	Cer, (RPN710C223M50V)	0.022 μF , $\pm 20\%$, 50V	
C46	Cer, (RPN710C223M50V)	0.022 μF , $\pm 20\%$, 50V	
C47	Cer, (RPD670C472M50V)	4700pF, $\pm 20\%$, 50V	
C48	Cer, (RPN710C223M50V)	0.022 μF , $\pm 20\%$, 50V	
C49	Not assigned		
C50	Cer, (RPD670C472M50V)	4700pF, $\pm 20\%$, 50V	
C51	Elect, (CE04C1J2R2)	2.2 μF , $\pm 20\%$, 63V	
C52	Cer, (RPN710C223M50V)	0.022 μF , $\pm 20\%$, 50V	
C53	Not assigned		
C54	Not assigned		
C55	Not assigned		
C56	Not assigned		
C57	Cer, (CK924F1H104Z)	0.1 μF , $\pm 80/-20\%$, 50V	
C58	Cer, (CK924F1H104Z)	0.1 μF , $\pm 80/-20\%$, 50V	
C59	Cer, (CK924F1H104Z)	0.1 μF , $\pm 80/-20\%$, 50V	
C60	Cer, (CK924F1H104Z)	0.1 μF , $\pm 80/-20\%$, 50V	
L 1	Not assigned		
L 2	Not assigned		
L 3	Not assigned		
L 4	Coil, (442T46014B)		
L 5	Coil, (442T46012)		
L 6	Coil, (442T46014B)		
L 7	Coil, (44L46022B)		
L 8	Coil, (44L46022)		
L 9	Coil, (SP0408-6R8K)	6.8 μH	
L10	Coil, (SP0408-6R8K)	6.8 μH	
Q 1	Tr, (2SC2149)		
Q 2	Tr, (2SC2149)		
Q 3	Tr, (2SC2149)		

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COMPONENT LIST OF FLAT AMP

CKT REF	DESCRIPTION	RATING	NOTE
Q 4	Di, (1SV35)		
Q 5	Tr, (2SC2149)		
Q 6	Tr, (2SC1251)		
Q 7	Tr, (2SC1251)		
Q 8	Tr, (2SC1251)		
R 1	MF, (NRN1/4C4 * D)	107.4 to 144.4 Ω , $\pm 0.5\%$, 1/4W	*
R 2	MF, (NRN1/4C4 * D)	107 to 204 Ω , $\pm 0.5\%$, 1/4W	*
R 3	MF, (NRN1/4C4 * D)	107.4 to 144.4 Ω , $\pm 0.5\%$, 1/4W	*
R 4	MF, (NRN1/4C4 71.2 Ω D)	71.2 Ω , $\pm 0.5\%$, 1/4W	
R 5	MF, (NRTF1/4C 1.2k Ω J)	1.2k Ω , $\pm 5\%$, 1/4W	
R 6	MF, (NRN1/4C 226 Ω D)	226 Ω , $\pm 0.5\%$, 1/4W	
R 7	MF, (NRTF1/4C 1.2k Ω J)	1.2k Ω , $\pm 5\%$, 1/4W	
R 8	CF, (ARD25T222J)	2.2k Ω , $\pm 5\%$, 1/4W	
R 9	MF, (NRTF1/4C 220 Ω J)	220 Ω , $\pm 5\%$, 1/4W	
R10	MF, (NRN1/4C4 71.2 Ω D)	71.2 Ω , $\pm 0.5\%$, 1/4W	
R11	MF, (NRTF1/4C 1.2k Ω J)	1.2k Ω , $\pm 5\%$, 1/4W	
R12	MF, (NRN1/4C4 226 Ω D)	226 Ω , $\pm 0.5\%$, 1/4W	
R13	MF, (NRTF1/4C 1.2k Ω J)	1.2k Ω , $\pm 5\%$, 1/4W	
R14	CF, (ARD25T * J)	2.7 to 56k Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *
R15	MF, (NRTF1/4C 220 Ω J)	220 Ω , $\pm 5\%$, 1/4W	
R16	MF, (NRTF1/4C 1k Ω J)	1k Ω , $\pm 5\%$, 1/4W	
R17	MF, (NRN1/4C4 71.2 Ω D)	71.2 Ω , $\pm 5\%$, 1/4W	
R18	MF, (NRTF1/4C 470 Ω J)	470 Ω , $\pm 5\%$, 1/4W	
R19	CF, (ARD25T391J)	390 Ω , $\pm 5\%$, 1/4W	
R20	MF, (NRTF1/4C 1.5k Ω J)	1.5k Ω , $\pm 5\%$, 1/4W	
R21	MF, (NRTF1/8C 220 Ω J)	220 Ω , $\pm 5\%$, 1/8W	
R22	MF, (NRTF1/4C 1k Ω J)	1k Ω , $\pm 5\%$, 1/4W	
R23	CF, (ARD25T391J)	390 Ω , $\pm 5\%$, 1/4W	
R24	MF, (NRTF1/4C 470 Ω J)	470 Ω , $\pm 5\%$, 1/4W	
R25	MF, (NRN1/4C4 71.2 Ω D)	71.2 Ω , $\pm 0.5\%$, 1/4W	
R26	MF, (NRTF1/4C 1.2k Ω J)	1.2k Ω , $\pm 5\%$, 1/4W	
R27	MF, (NRN1/4C4 140 Ω D)	140 Ω , $\pm 0.5\%$, 1/4W	
R28	MF, (NRTF1/4C 1.2k Ω J)	1.2k Ω , $\pm 5\%$, 1/4W	
R29	CF, (ARD25T152J)	1.5k Ω , $\pm 5\%$, 1/4W	
R30	MF, (RN14K2H330J)	33 Ω , $\pm 5\%$, 1/4W	
R31	MF, (NRN1/4C4 35.7 Ω D)	35.7 Ω , $\pm 0.5\%$, 1/4W	
R32	CF, (ARD25T102J)	1.0k Ω , $\pm 5\%$, 1/4W	
R33	MF, (NRTF1/4C 220 Ω J)	220 Ω , $\pm 5\%$, 1/4W	
R34	MF, (NRTF1/4C 68 Ω J)	68 Ω , $\pm 5\%$, 1/4W	
R35	CF, (ARD25T * J)	330 Ω to 8.2k Ω , $\pm 5\%$, 1/4W	Q'ty 1 to 3, *

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* : Selected at factory

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COMPONENT LIST OF FLAT AMP

CKT REF	DESCRIPTION	RATING		NOTE
R36	MF, (NRN1/4C4 11.5ΩD)	11.5Ω, ±0.5%, 1/4W		
R37	MF, (NRTF1/2C 100ΩJ)	100Ω, ±5%, 1/2W		
R38	MR, (NRN1/4C4 11.5ΩD)	11.5Ω, ±0.5%, 1/4W		
R39	MF, (NRTF1/2C 100ΩJ)	100Ω, ±5%, 1/2W		
R40	MF, (NRN1/4C4 35.7ΩD)	35.7Ω, ±0.5%, 1/4W		
R41	MF, (NRTF1/4C 47ΩJ)	47Ω, ±5%, 1/4W		
R42	MF, (NRTF1/2C 150ΩJ)	150Ω, ±5%, 1/2W		
R43	MF, (NRN1/4C4 30.4ΩD)	30.4Ω, ±0.5%, 1/4W		
R44	MF, (NRN1/4C4 75.0ΩD)	75.0Ω, ±0.5%, 1/4W		
R45	Not assigned			
R46	Not assigned			
R47	Not assigned			
R48	Not assigned			
R49	Not assigned			
R50	Not assigned			
R51	Not assigned			
R52	MF, (NRTF1/8C 68ΩJ)	68Ω, ±5%, 1/8W		
R53	MF, (NRTF1/4C 1kΩJ)	1kΩ, ±5%, 1/4W		
R54	MF, (NRTF1/4C 1kΩJ)	1kΩ, ±5%, 1/4W		
R55	Not assigned			
R56	Not assigned			
R57	Not assigned			
R58	CF, (ARD25T391J)	390Ω, ±5%, 1/4W		
R59	CF, (ARD25T102J)	1.0kΩ, ±5%, 1/4W		

(): Manufacturer's part number

* : Selected at factory

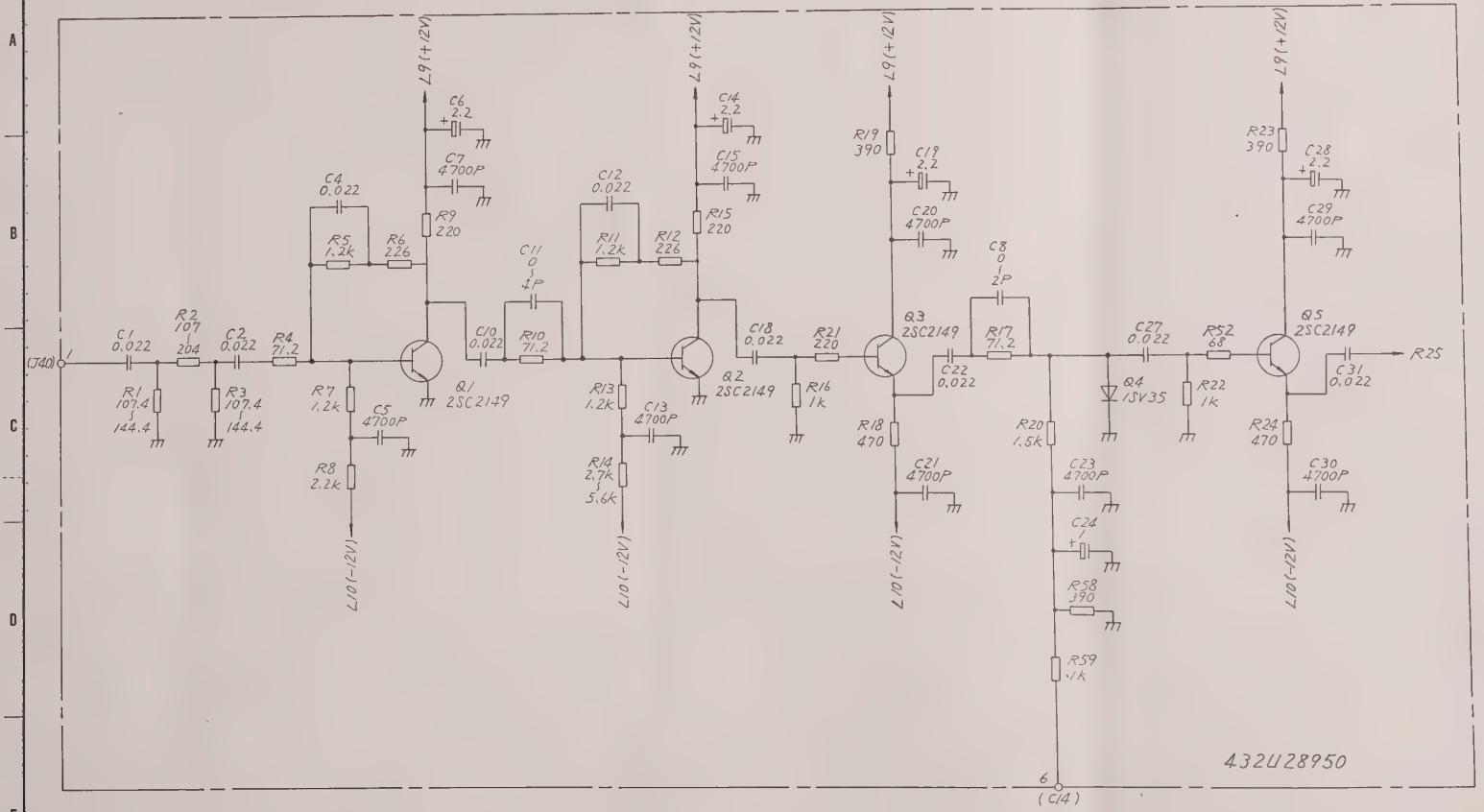
44W80619

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関係図番

記号	来	歴	年月日	氏名	承認



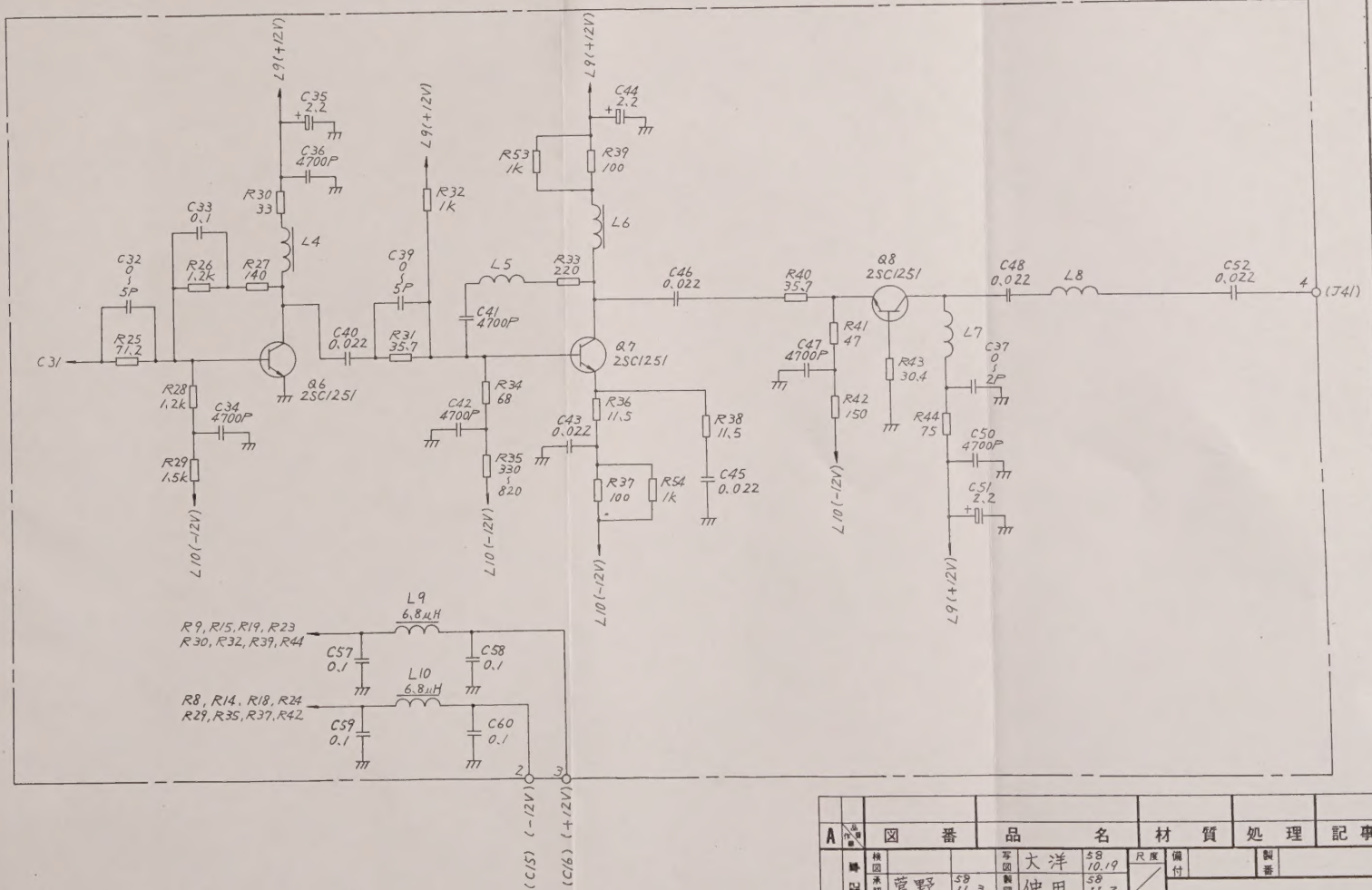
432U28950

COMPONENT LIST 44W80619

図番	品名	材質	処理	記事
43W31876 1/2	CIRCUIT DIAGRAM OF FLAT AMP			

関係図番

A
B
C
D
E



入庫

A		図番	品名	材質	処理	記事
機	種	管野	58 10.19	大洋	58 11.3	仲田
製	名	CIRCUIT DIAGRAM OF FLAT AMP		図番 43W31876 2/2		



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